

Article 302. Final Contract Plans and Specifications for Flow Release Structure. At least 60 days before starting construction, the licensee shall submit one copy to the Division of Dam Safety and Inspections – Atlanta Regional Engineer – and two copies to the Commission (one of these shall be a courtesy copy to the Director, Division of Dam Safety and Inspections), of final contract plans and specifications along with an accompanying supporting design report. The supporting design report should cover all pertinent features, such as gates or siphons, and be consistent with the Commission’s Engineering Guidelines. The Commission may require changes to the plans and specifications to assure the work is completed in a safe and environmentally sound manner. If the licensee plans substantial changes to the location, size, type, or purpose of project features, the plans and specifications must be accompanied by revised Exhibit F and G drawings, as necessary. Construction may not commence until authorized by the Regional Engineer.

Article 401. Diadromous Fish Restoration.

- (1) Requirement to File Plans and Design Drawings for Commission Approval.

The fishway prescription in Appendix A to this order incorporates Article FS₂ of the Settlement Agreement, filed on July 15, 2003. That article requires the licensee to (a) conduct studies, (b) prepare monitoring plans, and (c) design fish passage facilities, developed cooperatively pursuant to the procedures outlined in Article 427, with the U.S. Fish and Wildlife Service, the National Marine Fisheries Service, the North Carolina Wildlife Resources Commission, the North Carolina Department of Environment and Natural Resources – Division of Marine Fisheries, and the Virginia Department of Game and Inland Fisheries [together with the licensee, jointly referred to as the Diadromous Fish Restoration Technical Advisory Committee (Fish Restoration Committee)]. Each such plan or fish passage facility identified below, with a reference to a source of its requirement, shall also be submitted to the Commission for approval and must be approved by the Commission before being implemented or constructed by the licensee. Within 180 days of license issuance, the licensee, after consultation with the other members of the Fish Restoration Committee, shall file, with the Commission, a schedule for submittal of each of the monitoring plans and facility design plans for Commission approval. The schedule may include decision points for action as well as specific calendar dates for development and implementation of plans and facilities. The Commission reserves the right to make changes to the plans.

Settlement Agreement	
Article & Section No.	Description of Plan or Facility
FS ₂ , 3.1 – 3.3, 3.5, 3.7	American Eel Distribution studies

FS ₂ , 3.4 & 3.6	Upstream American Eel Facility Designs
FS ₂ , 3.4 & 3.7	Upstream Eel Passage Effectiveness
FS ₂ , 3.8	Downstream American Eel Passage Evaluation
FS ₂ , 3.9 & 3.10	Downstream Eel Passage Facility Designs
FS ₂ , 4.1.1.6 & 4.1.2.1	Initial Trap & Transport Facility Plan
FS ₂ , 4.1.1.7 & 4.1.2.2	Downstream Passage & Turbine Mortality Study Plan for Post-Spawned Adults & Out-Migrating Juvenile American Shad
FS ₂ , 4.1.2.1 & 4.1.3	Adult American Shad Telemetry Studies
FS ₂ , 4.1.4, 4.2.3, & 4.3	Trap/Sort/Transport Facility at Roanoke Rapids dam (including designs, construction, engineering testing, schedule for operation, and effectiveness testing)
FS ₂ , 4.3.12 & 4.3.13	Downstream Passage Measures for Juvenile and Post-Spawned Adult American Shad

As to each fish passage facility to be constructed or installed, the licensee shall include detailed design drawings of the licensee's proposed fish passage facilities, showing the specifications of the facilities (including the flows needed to operate the facilities), together with a plan and schedule to construct, install, operate, and maintain the facility, at least 90 days before the start of any land clearing or land-disturbing activities for fish passage facilities at the project site. As to each study and monitoring plan, the licensee shall identify the methodology employed, as well as a schedule for: (a) implementing the monitoring provisions; (b) consultation with the members of the Fish Restoration Committee concerning the results of the monitoring; and (c) filing the results, agency comments, and licensee's response to agency comments with the Commission.

With respect to each plan, the licensee shall submit to the Commission documentation of its consultation, as set forth in Article 427. The Commission reserves the right to make changes to any proposed facility and schedule, and any plan submitted. Upon Commission approval, the facility or plan becomes a requirement of the license, and the licensee shall implement the plan or changes to

project operations or facilities, including any changes required by the Commission.

If the results of any monitoring study required as part of this article indicate that changes in project operations or facilities are necessary to facilitate fish passage (including any measures identified by the licensee or the members of the Fish Restoration Committee that result from consultation required by this article), the Commission may direct the licensee to make such reasonable changes in the design of the facilities or operations, as necessary.

Short-term changes to any study or monitoring plan required by this article and undertaken in response to events that may alter flow releases, affect monitoring effectiveness, or affect diadromous fish may be made after consultation with the Fish Restoration Committee, as set forth in Article 427. Any such changes will be reported to the Commission within 30 days of being determined necessary.

(2) Requirement to File Documentation of Completion.

The licensee shall file, with the Commission, documentation of completion, including as-built drawings filed pursuant to Article 301, of the following facilities or activities, at a minimum: (a) upstream American eel passage facilities at Roanoke Rapids and Gaston dams; (b) downstream American eel passage facilities at Roanoke Rapids and Gaston dams; (c) initial trap and transport measures; (d) Phase 2 trap/sort/transport fish passage facility; and (e) downstream fish passage facilities for American shad.

(3) Other Requirements.

Certain conditions in the Section 18 Fishway Prescription, which is attached as Appendix A to this order, incorporate provisions of the settlement agreement filed July 15, 2003, and contemplate long-term changes to project operations or facilities for the purpose of enhancing fish passage in the Roanoke River. The changes may not be implemented without prior Commission approval after formal exercise of the authority reserved in Article 417 of this license. The conditions are listed below.

Settlement Agreement	
Article & Section No.	Description of Plan or Facility
FS ₂ , 4.4	Phase 3 Volitional Fish Passage Facility
FS ₂ , 9.0	Discontinuing the Licensee's Fish Passage Obligation

Article 402. Dissolved Oxygen Standards. Within 30 days of the issuance date of this license, the licensee shall operate the project such that water discharged through the Roanoke Rapids hydropower turbines meets, or exceeds, instantaneous and mean dissolved oxygen (DO) concentrations of 4.0 milligrams per liter (mg/l) and 5.0 mg/l, respectively. The daily mean DO concentration shall be calculated as the mean of 24 hourly instantaneous values. If DO concentrations immediately upstream of the project do not meet or exceed an instantaneous value of 4.0 mg/l or a daily mean of 5.0 mg/l, the licensee shall notify the North Carolina Division of Water Quality (NC Water Quality) and the water discharged through the Roanoke Rapids hydropower turbines shall equal or exceed the upstream DO concentration.

In the event of temporary emergency conditions that negatively affect compliance with the above DO requirements, the licensee shall cooperate in good faith with the NC Water Quality and the North Carolina Wildlife Resources Commission to take reasonable steps to protect the water quality of the Roanoke River downstream from the Roanoke Rapids dam.

Article 403. Roanoke Rapids DO Monitoring Plan. Within 180 days of the issuance date of this license, the licensee shall file with the Commission, for approval, a plan to monitor dissolved oxygen (DO).

The plan shall include, at a minimum:

- (1) a provision to measure DO concentrations at the project to ensure that the DO standards, as specified in Article 402, are being maintained; in the Roanoke Rapids tailrace;
- (2) DO sampling locations in the Lake Gaston tailwaters and upstream of the Lake Gaston dam, after consultation with the North Carolina Division of Water Quality (NC Water Quality);
- (3) a provision to notify NC Water Quality's Raleigh Regional Office if DO concentrations immediately upstream of the project do not meet or exceed an instantaneous or daily mean value of 4.0 milligrams per liter (mg/l) or 5.0 mg/l, respectively;
- (4) a provision to sample DO levels in Lake Gaston and in the tailwaters of Lake Gaston within two business days of non-compliance with the DO standard specified in Article 402 for the Roanoke Rapids tailwaters;

- (5) a provision to maintain the DO data on a real-time basis via the internet and to forward the data to NC Water Quality's Wetland/401 Unit, the Ecosystems Unit and the Raleigh and Washington Regional Offices every other month from November 1 through May 31 and monthly from June 1 through October 31. The data shall be filed with the Commission at the same time. The licensee shall submit the data electronically and shall notify NC Water Quality in writing when the data have been transmitted. The licensee may submit accompanying printed copies, in addition to the electronic submittals. Data collected by the licensee shall include (a) stage or flow, as measured in cfs, (b) site, (c) date, (d) time, (e) depth, (f) DO concentrations, measured in mg/l, and (f) water temperature, measured in degrees Celsius (°C); and
- (6) an implementation schedule.

The licensee shall prepare the plan after consultation with NC Water Quality. The licensee shall include with the plan documentation of agency consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to NC Water Quality, and specific descriptions of how NC Water Quality's comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for NC Water Quality to comment and to make recommendations before filing the plan with the Commission. In reporting the results of the consultation with the Commission, the licensee shall document its compliance with the consultation process and provide either the agreement reached or documentation of any dispute, including the positions taken by the parties.

The Commission reserves the right to require changes to the plan. No ground-disturbing or land-clearing activities for installation of any monitoring devices shall begin until the Commission notifies the licensee that the plan is approved. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

If the results of the monitoring indicate that operational changes are necessary to protect water quality, the Commission may direct the licensee to modify project operations. Any long-term changes to project operations or facilities identified by the monitoring results to mitigate environmental impacts may not be implemented without prior Commission approval.

In the event of temporary emergency water quality conditions arising from implementing specific provisions of the plan required by this article, the licensee

shall cooperate with NC Water Quality to take such reasonable steps to protect the water quality of the Roanoke River downstream from the Roanoke Rapids dam.

Article 404. Downstream Water Quality Monitoring Plan. Within one year of the issuance date of this license, the licensee shall file with the Commission, for approval, a plan to monitor dissolved oxygen (DO) and water temperature at the existing U.S. Geological Survey (USGS) gauges located at Halifax, Oak City, and Jamesville, North Carolina, downstream from the project.

The plan shall include, at a minimum:

- (1) a provision to fund three of the existing USGS continuous water quality monitoring stations for DO and water temperature at Halifax, Oak City, and Jamesville, North Carolina. The funding shall be provided annually to the North Carolina Department of Environment and Natural Resources (NC Environment and Natural Resources) and shall be provided retroactively to the submission of the monitoring plan;
- (2) a provision to maintain the DO data on a real-time basis via the internet and to forward the data to North Carolina Division of Water Quality (NC Water Quality) Wetland/401 Unit, Ecosystems Unit and Raleigh and Washington Regional Offices every other month from November 1 through May 31, and monthly from June 1 through October 31. The data shall be filed with the Commission at the same time. The licensee shall submit the data electronically and shall notify NC Water Quality in writing when the data have been transmitted. The licensee may submit accompanying printed copies in addition to the electronic submittals. Data collected by the licensee shall include (a) stage or flow, as measured in cfs, (b) site, (c) date, (d) time, (e) depth, (f) DO concentrations, measured in mg/l, and (f) water temperature, measured in degrees Celsius (°C);
- (3) the methods for evaluating the data collected, based on a 5-year study cycle or some other schedule as mutually agreed to by the licensee, NC Water Quality and the North Carolina Wildlife Resources Commission (NC Wildlife Resources);
- (4) in consultation with NC Water Quality and NC Wildlife Resources, a stepwise process for developing any operational changes and procedures that could be implemented, if, during the evaluation of water quality data described in this article, the NC Water Quality and NC Wildlife Resources find that scientific data establish a causal link between

rescheduling, by the licensee, of the U.S. Army Corps of Engineers (Corps) weekly declaration and reduction of water quality in the main stem of the Roanoke River to below state standards such that by the end of the last study cycle if changes are made at the end of each such study cycle the licensee shall release one seventh of the Corps weekly declaration per day as defined in Settlement Agreement Article GP2; and

- (5) an implementation schedule.

The licensee shall prepare the plan after consultation with NC Water Quality and NC Wildlife Resources. The licensee shall include with the plan documentation of agency consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. In reporting the results of the consultation with the Commission, the licensee shall document its compliance with the consultation process and provide either the agreement reached or documentation of any dispute, including the positions taken by the parties.

The Commission reserves the right to require changes to the plan. No ground-disturbing or land-clearing activities for installation of any monitoring devices shall begin until the Commission notifies the licensee that the plan is approved. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

Following plan approval, any long-term changes to project operations or facilities identified by the monitoring results to mitigate environmental impacts, and not previously approved by the Commission in the plan, may not be implemented without prior Commission approval. If the results indicate that the project is not affecting downstream water quality, the licensee – after consultation with NC Water Quality and NC Wildlife Resources – may request that the Commission terminate the requirement to fund the downstream gauges and monitoring requirements of this article. The Commission reserves the right to direct the licensee to modify project operations to protect water quality.

In the event of emergency water quality conditions, the licensee shall cooperate with NC Water Quality and NC Wildlife Resources to take such reasonable steps to protect the water quality of the Roanoke River downstream from the Roanoke Rapids dam.

Article 405. Flow Augmentation. Upon license issuance, the licensee, in consultation with the U.S. Army Corps of Engineers (Corps), the North Carolina Division of Water Quality (NC Water Quality) and the North Carolina Wildlife Resources Commission (NC Wildlife Resources), shall begin augmenting flows downstream from Lake Gaston if all four of the following conditions are met: (1) the Corps is operating the Kerr Reservoir under its drought management strategy; (2) Roanoke Rapids is not in a hydropower peaking mode and is only releasing drought minimum flows as directed by the Corps' drought management strategy or the licensee is maintaining drought minimum flows, in accordance with Article 409; (3) a weekly declaration from the Corps (as defined in Settlement Agreement Article GP2) is issued that is less than the total of drought minimum flow required at the Roanoke Rapids dam; and (4) Lake Gaston water surface elevation is above 197.0 feet above mean sea level (msl). Upon initiation of the use of Lake Gaston storage, the licensee shall notify the Commission and the president of the Lake Gaston Association, and post information on its "Lake Information" web page concerning the use of Lake Gaston storage.

When the water level in Lake Gaston reaches 197.0 feet msl, the licensee shall no longer be required to augment downstream flows in accordance with the preceding paragraph. At such time, the licensee shall release from the Roanoke Rapids dam, a flow equal to the flow entering the project from upstream, adjusted for consumptive withdrawals, evaporation, and inflows to Lake Gaston and Roanoke Rapids Lake. If all the drought storage in Lake Gaston (60,000 acre-feet between 200.0 feet and 197.0 feet msl) is used for downstream flow augmentation, the licensee may regulate Lake Gaston from 197.5 feet msl to 196.5 feet msl to meet system operational needs.

When the Corps weekly declaration begins to exceed the Roanoke Rapids dam drought minimum flows, the licensee shall not exceed drought minimum flows at the Roanoke Rapids dam or operate Roanoke Rapids in a load-following mode until the level in Lake Gaston reaches 199.5 feet msl.

Water levels and flows may be temporarily modified if required by operating emergencies beyond the control of the licensee, or for short periods for project maintenance purposes, upon mutual agreement between the licensee, NC Water Quality and NC Wildlife Resources. If the water levels or flows are so modified, the licensee shall notify the Commission as soon as possible, but no later than 10 days after each such incident.

Article 406. Lake Level Management. Within 30 days of the issuance of this license, the licensee shall implement the lake level management provisions of

this article. The purpose of this article is to manage lake levels in Lake Gaston and Roanoke Rapids Lake to optimize the ecological, cultural, and recreational values of the lakes, while maintaining the licensee's operational flexibility.

The licensee shall operate the project so that during normal operation, Lake Gaston water level is maintained at 199.5 feet mean sea level (msl), \pm 0.5 foot (between 199.0 and 200.0 feet msl), and Roanoke Rapids Lake water level is maintained at 129.5 ± 2.5 feet (between 127.0 and 132 feet msl). During the striped bass spawning season (March 1 through June 15), water may be stored in Lake Gaston between elevations 200.0 and 201.0 feet msl for weekend downstream flow augmentation.

Notwithstanding the water level limitations imposed above, the Lake Gaston water level shall be allowed to fall below elevation 199.0 feet msl, but no lower than elevation 198.0 feet msl, for up to 48 hours during any one seven-day period and up to 360 hours per calendar year. Roanoke Rapids Lake water level shall be allowed to fall below elevation 127 feet msl, but no lower than elevation 125.0 feet msl, for up to 48 hours during any one seven-day period and up to 360 hours per calendar year.

During April and May (bass spawning season), the licensee shall consult with the North Carolina Wildlife Resources Commission (NC Wildlife Resources) prior to reducing Lake Gaston water levels below 199 feet msl.

The lake water level requirements may be temporarily modified if required by operating emergencies beyond the control of the licensee, or for short periods upon mutual agreement between the North Carolina Division of Water Quality (NC Water Quality) and NC Wildlife Resources. Consultation with the U. S. Army Corps of Engineers (Corps) is required if the upper lake level limits are to be exceeded. If lake levels are so modified, the licensee shall notify the Commission as soon as possible, but not later than 10 days after each such incident, and shall provide the reason for the change in lake levels.

Temporary modifications shall be allowed when flow release from the Kerr dam is insufficient to satisfy both the minimum flow and minimum lake level requirements, as described in Article 405 of this license. In case of drought conditions declared by the Corps, the requirements of this article shall be superseded by the requirements of Article 409 of this license.

During flood events, as determined by the Corps, no upper limit on lake levels shall apply. As set forth in Article 410, the licensee shall coordinate the operation of the Roanoke Rapids and Gaston Project with the Corps' operation of the Kerr dam in the case of flood events. Unless otherwise directed by the Corps,

the licensee shall not allow the lake levels to exceed 203.0 feet msl at Lake Gaston dam and 132.75 feet msl at the Roanoke Rapids dam.

The licensee shall notify designated representatives from the Lake Gaston Association and the Roanoke Rapids Lake Association, as applicable, when an unusual lake level event is expected to occur. In addition, the licensee shall make available, and update daily, on its website projected Lake Gaston water levels.

Article 407. Roanoke River Bypassed Reach Flows. Within 30 days of the issuance date of this license, the licensee shall discharge from the Roanoke Rapids Lake into the Roanoke River bypassed reach the following minimum and freshet flows in accordance with the schedule indicated. The purpose of these flows is to enhance, maintain, and protect fish and wildlife habitat and the biological integrity in the bypassed reach, enhance anadromous fish spawning success, and provide periodic freshet flows to mimic periodic non-flood high flow events.

For the purposes of this article, a freshet flow event is defined as a minimum of 24 consecutive hours and a maximum of 21 consecutive days where flows equal or exceed 500 cubic feet per second (cfs) in the bypassed reach. The licensee shall release these freshet flows according to a schedule provided by the North Carolina Division of Water Quality (NC Water Quality). The licensee is not required to abide by any modifications to the schedule unless provided at least 10 days notice prior to modification. Should no schedule be provided by November 30th of each year, the licensee shall develop a schedule for the release of the freshet flows for the next calendar year.

During the first five years of the license period (first study cycle), the licensee shall discharge a minimum flow of 325 cfs and 17 freshet flow events annually.

During the third through fifth year of the license period, the licensee shall provide, for a 30-day period between March 1 and June 15, a minimum flow of 500 cfs. The 30-day flow of 500 cfs shall count as two freshet flow events. Commencement of the 30-day anadromous fish spawning flow period shall be determined after consultation with the Cooperative Management Team (CMT), pursuant to Article 427, consisting of North Carolina Wildlife Resources Commission (NC Wildlife Resources), the North Carolina Department of Environment and Natural Resources (NC Environment and Natural Resources), the U.S. Fish and Wildlife Service (USFWS), the National Marine Fisheries Service (NOAA Fisheries), and the Regional Partnership of Local Governments (Local Governments) in an ex officio capacity.

During the sixth through tenth year of the license period (second study cycle), the licensee shall discharge a minimum flow of 500 cfs for a 90-day period (anadromous fish spawning flow period) between March 1 and June 15, and a minimum flow of 325 cfs for the remainder of the year. Commencement of the 90-day anadromous fish spawning flow period shall be determined after consultation with the CMT, as set forth in Article 427.

During the second study cycle, the licensee shall provide 13 freshet flow events outside of the 90-day anadromous fish spawning flow period. With mutual agreement of the CMT, the licensee may: (1) reduce the 90-day period; (2) reduce the minimum flow to 300 cfs during the months of December, January and February; (3) shorten or extend the number of years with these flow requirements; and (4) determine whether additional study cycles are needed or establish, with Commission approval, a bypass flow regime for the remaining life of the license. If a drought occurs and the weekly declaration is less than 2500 cfs, the flow may be reduced to the weekly declaration minus 2000 cfs. Notwithstanding, the minimum flow in the bypass would not be less than 325 cfs.

During the eleventh through fifteenth year of the license (third study cycle), if the licensee, in consultation with the members of the CMT, as set forth in Article 427, determines that a third study cycle is required, the licensee shall discharge a minimum flow of 325 cfs, and for a 90-day period between March 1 and June 15, a minimum flow of 750 cfs. Commencement of the 90-day anadromous fish spawning flow period shall be determined after consultation with the members of the CMT, pursuant to Article 427. The licensee shall provide 13 freshet flow events outside of the 90-day anadromous fish spawning flow period. If a drought occurs and the weekly declaration is less than 2750 cfs, the flow may be reduced to the weekly declaration minus 2000 cfs. Notwithstanding, the minimum flow in the bypass would not be less than 325 cfs.

With mutual agreement of the members of the CMT, the licensee may: (1) reduce the 90-day period; (2) reduce the minimum flow to 300 cfs during the months of December, January and February; (3) shorten or extend the number of years with these flow requirements; and (4) determine if additional study cycles are needed or establish, with Commission approval, a bypass flow regime for the remaining life of the license.

From the sixteenth through twentieth year of the license (fourth study cycle), if the licensee, in consultation with the members of the CMT, as set forth in Article 427, determines that a fourth study cycle is required, the licensee shall discharge a minimum flow of 325 cfs, and for a 90-day period between March 1 and June 15, a minimum flow of 1,000 cfs. Commencement of the 90-day

anadromous fish spawning flow period shall be determined after consultation with the members of the CMT, pursuant to Article 427. Licensee shall provide 13 freshet flow events outside of the 90-day anadromous fish spawning flow period. If a drought occurs and the weekly declaration is less than 3000 cfs, the flow may be reduced to the weekly declaration minus 2000 cfs. Notwithstanding, the minimum flow in the bypass would not be less than 325 cfs.

If during any of the study cycles described above flood flows are in effect, the licensee in consultation with the CMT members may make adjustments to the plan to study the higher spawning flows out of the sequence described above per settlement agreement Article FL1 Section 4.8. The licensee shall notify the Commission within 30 days of any such adjustments to the plan.

If the licensee has constructed, and placed in operation, Phase II fish passage facilities, the 1,000 cfs flow during the anadromous fish spawning period shall be reduced to 900 cfs.

With mutual agreement of the members of the CMT, the licensee may: (1) reduce the 90-day period; (2) reduce the minimum flow to 300 cfs during the months of December, January and February; and (3) shorten or extend the number of years with these flow requirements.

After the last study cycle is completed, the licensee shall consult with the members of the CMT, as set forth in Article 427, to determine a final flow plan for the Roanoke Rapids bypassed reach, and file the plan with the Commission for approval. The final flow plan shall include (1) base and freshet flows within the parameters set earlier in this article (300 – 325 cfs base, 500 cfs freshet 13 to 17 times per year), and (2) a spawning season flow between 325 cfs and 1,000 cfs for up to 90 days between March 1 and June 15.

If the CMT is unable, after the second or third study cycle, to determine whether additional data are necessary, the spawning flows shall continue at the level of the just-completed study cycle until a determination is made by the CMT. If the fourth study cycle has been completed or the CMT has determined that no further study is necessary at the conclusion of any earlier cycle, the licensee shall provide spawning flows equal to the average of the flow in the last two study cycles until the final flow is determined.

Prior to the completion of the thirtieth year after license issuance, the licensee shall consult with the members of the CMT, as set forth in Article 427, regarding the need for fish spawning flows greater than 1,000 cfs. If it is determined that the need for testing higher flows exists, the licensee shall file, for

Commission approval, a plan for studying spawning flows greater than 1,000 cfs beginning with the thirtieth year of the license.

Until implementation of the Commission approved flow release plan required by Article 411, bypassed reach flows shall be determined based on a reservoir elevation of 129.5 feet mean sea level and the Roanoke Rapids dam spillway gate openings, and all minimum flows shall be discharged through the north and south spillway gates of the Roanoke Rapids dam, such that the water is evenly distributed in the bypassed reach.

By January 31 of each year, the licensee shall provide the Commission, and the members of the CMT: (1) a schedule for freshet flow events to occur in the following year; (2) a report summarizing the previous year's freshet flow events; (3) the commencement and cessation of the anadromous fish spawning flows; (4) any changes made to the winter base flow; (5) any changes made to the anadromous fish spawning flow; (6) any changes made to the anadromous fish spawning period; (7) any determination by the CMT of whether the current study cycle should be shortened or extended; and (8) any determination by the CMT of whether an additional study cycle is needed.

These flows may be temporarily modified if required by operating emergencies beyond the control of the licensee, for flood control, or for short periods of time upon mutual agreement among the licensee, and the members of the CMT. If the minimum flows are so modified, the licensee shall notify the Commission and the members of the CMT as soon as possible, but no later than 10 days after each such incident.

Article 408. *Roanoke River Bypassed Reach Ramping Rates.* The licensee shall reduce flows in the Roanoke Rapids bypassed reach according to the following table, when flows in the bypassed reach have receded to or are at 5,000 cfs. If flood releases occur but do not reach 5,000 cfs through the floodgates, the licensee shall reduce flows in the bypassed reach according to the table below, starting with whatever maximum release was reached during the flood event.

<u>Hour</u>	<u>Discharge (cfs)</u>
0	5,000
4	4,000
8	3,000
12	2,000
16	1,500
20	1,000
24	700

28	500
32	325

These flows and ramping rates may be temporarily modified if required by operating emergencies beyond the control of the licensee, for flood control, or for short periods of time upon mutual agreement among the licensee, the U.S. Army Corps of Engineers, the North Carolina Wildlife Resources Commission (NC Wildlife Resources), and the North Carolina Department of Environment and Natural Resources (NC Environment and Natural Resources). If the flows are reduced at a rate greater than shown in the table, the licensee shall notify the Commission, NC Wildlife Resources and NC Environment and Natural Resources as soon as possible, but no later than 10 days after each such incident.

Article 409. Roanoke Rapids Flow Operating Restrictions. Within 30 days of the issuance date of this license, the licensee shall operate the Roanoke Rapids development under the following restrictions, and in accordance with the following schedule. The purpose of these flows and restrictions is to protect and enhance water quality and the biological integrity of the Roanoke River downstream of the Roanoke Rapids development. The flow restrictions listed in this article shall be inclusive of the bypassed reach flows.

From December 1 through January 15, the licensee shall maintain a minimum flow of 2,000 cubic feet per second (cfs) if the U.S. Army Corps of Engineers' (Corps) weekly flow declaration for the Kerr dam is less than 6,000 cfs, or the daily mean of the weekly declaration (as defined in Settlement Agreement Article GP2), whichever is less. Notwithstanding, the licensee shall only release flows less than 2000 cfs pursuant to the provisions of article 405 of this license and settlement agreement article FL2, Section 4.2. If the Corps' weekly flow declaration for the Kerr dam is equal to, or greater than, 6,000 cfs, the licensee shall maintain a minimum flow of 2,500 cfs.

From January 16 through the end of February, the licensee shall maintain a minimum flow of 2,500 cfs if the Corps' weekly flow declaration for the Kerr dam is less than 6,000 cfs, or the daily mean of the weekly declaration (as defined in Settlement Agreement Article GP2), whichever is less. Notwithstanding, the licensee shall only release flows less than 2000 cfs pursuant to the provisions of article 405 of this license and settlement agreement article FL2, Section 4.2. If the Corps' weekly flow declaration for the Kerr dam is equal to, or greater than, 6,000 cfs, the licensee shall maintain a minimum flow of 3,000 cfs.

From March 1 through March 31, the licensee shall be afforded up to five days with which to operate in a peaking mode, provided that peaking operations occur only subject to all of the following conditions: (1) for no more than three

consecutive days; (2) for no more than three days in any 7-day period; (3) during no more than two weeks during the month of March; (4) for no more than two days from March 25 through March 31; and (5) provided further that the Corps' weekly declaration flow is greater than 3,500 cfs. During peaking operations, the licensee shall maintain a minimum flow of 3,500 cfs, and maintain an 8,500-cfs flow for 1 hour as flows are increased from the minimum flow to the generation flow and decreased from the generation flow to the minimum flow. At all other times, the licensee shall maintain a continuous flow equal to the daily mean of the Corps' weekly declaration flow for Kerr Dam (as defined in Settlement Agreement Article GP2).

From April 1 through June 15, the licensee shall maintain, at all times, a continuous minimum flow equal to the Corps' weekly declaration flow for the Kerr dam (as defined in Settlement Agreement Article GP2), and no change in weekly flow shall exceed 5,000 cfs per hour.

From June 16 through November 30, the licensee shall maintain the following minimum flows:

<u>Time Period</u>	<u>Discharge (cfs)</u>
June 16 – 30	2,800
July 1 – September 15	2,000
September 16 – November 15	1,500
November 16 – 30	2,000

Under drought conditions, as determined by the Corps', the licensee shall maintain, between January 1 and August 31, a minimum flow of 2,000 cfs; and between September 1 and November 30, a minimum flow of 1,500 cfs; and between December 1 and December 31, a minimum flow of 2,000 cfs.

These flows and ramping rates may be temporarily modified if required by operating emergencies beyond the control of the licensee, for flood control, or for short periods of time upon mutual agreement among the licensee, the Corps, the North Carolina Wildlife Resources Commission (NC Wildlife Resources) and the North Carolina Department of Environment and Natural Resources (NC Environment and Natural Resources). If the minimum flows are so modified, the licensee shall notify the Commission, NC Wildlife Resources, NC Environment and Natural Resources, and National Marine Fisheries Service as soon as possible, but no later than 10 days after each such incident.

Article 410. Flood Control Operation. The licensee shall coordinate project power operations at the Roanoke Rapids and Gaston Project with the U.S.

Army Corps of Engineer's (Corps) operation of the upstream John H. Kerr Project at flows greater than 8,000 cfs, such that flood flows at Roanoke Rapids dam are reduced according to the schedule outlined herein.

Upon license issuance, the licensee shall reduce flood flow releases in consultation with the Corps. Reduction in flood flow releases from the flood gates below 5000 cfs shall be in accordance with Article 408. In addition, the licensee shall implement, in coordination with the North Carolina Division of Water Quality (NC Water Quality) and the Corps, the following step-down schedule from a 20,000-cfs flow. The purpose of the step-down schedule is to (1) reduce flood flows in the main stem river gradually during the months of May through September and (2) minimize the effects of hypoxic water inflow from the Roanoke River floodplain to the mainstem Roanoke River.

<u>Hour</u>	<u>Flow (cfs)</u>
0	17,000
8	14,000
16	12,000
20	11,000
24	10,500
28	10,000
32	9,500
36	9,000

The aforementioned step-down schedule represents a maximum flow reduction schedule. A slower step-down schedule, one that arrives at the 9,000-cfs flow over a longer period of time, may be mutually agreed to by the licensee, NC Water Quality, and the Corps, on a case-by-case basis.

The licensee shall not engage in any load-following operations during the time frame needed to execute the flow reduction schedule.

The step-down schedule may be temporarily modified if required by operating emergencies beyond the control of the licensee, or for short periods for project maintenance purposes, upon mutual agreement between the licensee, NC Water Quality, and the Corps. If the modified step-down schedule results in the licensee reaching 9,000 cfs more quickly than the table above, the licensee shall notify the Commission as soon as possible, but no later than 10 days after each such incident.

Article 411. Bypassed Reach Flow Release Plan. Within 270 days of the issuance date of this license, the licensee shall file for Commission approval, a

plan for passing water from Roanoke Rapids dam into the Roanoke River bypassed reach. The purpose of the plan is to enhance, maintain, and protect fish and wildlife habitat and biological integrity in the bypassed reach. The licensee shall prepare the plan after consultation with the Cooperative Management Team, as set forth in Article 427 of this license, consisting of the North Carolina Wildlife Resources Commission, the North Carolina Department of Environment and Natural Resources, the U.S. Fish and Wildlife Service, the National Marine Fisheries Service, and the Regional Partnership of Local Governments as an ex officio member.

The plan at a minimum shall include: (1) provisions for facilitating management of downstream passage and minimizing the escapement of resident fish from Roanoke Rapids Lake, consistent with state and federal fishery management objectives for the Roanoke Rapids Lake and the Roanoke River basin; (2) an evaluation of methods of passing water including, but not limited to, (a) spillway gate valves, (b) siphons, and (c) auxiliary hydropower turbines; (3) provisions for (a) screening, (b) repositioning of intake portals, (c) light barriers, (d) sound barriers, or (e) electrical barriers or something similar to minimize the escapement of resident fish from Roanoke Rapids Lake; (4) the method for measuring minimum flows in the Roanoke River bypassed reach, consistent with the requirements of Article 407; and (5) an implementation schedule.

With respect to the plan required by this article, the licensee shall submit to the Commission documentation of its consultation, as set forth in Article 427. The Commission reserves the right to require changes to the plan. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

Article 412. *Project Operation and Flow Monitoring Plan.* Within 270 days of the issuance date of this license, the licensee shall file with the Commission, for approval, a plan to monitor compliance with project operations, including lake level fluctuation, within-day and within-week peaking operations, and the flows for the Roanoke Rapids bypassed reach and the lower Roanoke River, as required by Articles 405, 406, 407, 408, 409, 410, and 424, respectively.

The plan shall provide a means to independently verify compliance with the project operational and flow requirements of this license. The plan shall identify the monitoring methods and locations of monitoring devices necessary to ensure that the project is operated in a manner consistent with Articles 405, 406, 407, 408, 409, 410, and 424.

The plan shall include, at a minimum:

- (1) a description of all gages (including staff gages) and other equipment necessary to monitor (a) water levels in Lake Gaston and Roanoke Rapids Lake, as required by Article 406, (b) Lake Gaston and Roanoke Rapids Lake tailrace levels, and (c) Roanoke Rapids bypass flow and lower Roanoke River flow requirements, as identified in Articles 405, 407, 408, 409, 410, and 424;
- (2) procedures for recording and maintaining data on the project operations, as well as flows in the Roanoke Rapids bypassed reach and in the Roanoke River immediately downstream from the Roanoke Rapids tailrace;
- (3) provisions for reporting appropriate project operations and flow data and information to the resources agencies and the Commission; and
- (4) a schedule for implementing the plan.

The plan shall include provisions consistent with the emergency notification requirements for project operation and the instream flows required by this license. In addition, should impoundment elevations or instream flows, as measured according to the approved monitoring plan, fall below the levels required by this license, the plan shall include a provision whereby the licensee files with the Commission a report of the incident within 30 days of the incident.

The report shall, to the extent possible, identify the cause, severity, and duration of the incident, and any observed or reported adverse environmental impacts resulting from the incident. The report also shall include:

- (1) operational data necessary to determine compliance with this article;
- (2) a description of any corrective measures implemented at the time of the occurrence and the measures implemented or proposed to ensure that similar incidents do not recur; and
- (3) comments or correspondence, if any, received from the North Carolina Wildlife Resources Commission (NC Wildlife Resources), the North Carolina Department of Environment and Natural Resources (NC Environment and Natural Resources), the Virginia Department of Environmental Quality (Virginia Environmental Quality), the U.S. Fish and Wildlife Service (USFWS), the National Marine Fisheries Service (NOAA Fisheries), and The Nature Conservancy regarding the incident.

Based on the report and the Commission's evaluation of the incident, the Commission reserves the right to require modifications to project facilities and operations to ensure future compliance.

The licensee shall prepare the project operation and flow monitoring plan in consultation with NC Wildlife Resources, NC Environment and Natural Resources, Virginia Environmental Quality, USFWS, NOAA Fisheries, the U.S. Geological Survey, and The Nature Conservancy. The licensee shall include, with the plan, documentation of agency consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. In reporting the results of the consultation with the Commission, the licensee shall document its compliance with the consultation process and provide either the agreement reached or documentation of any dispute, including the positions taken by the parties.

The Commission reserves the right to require changes to the plan. No ground disturbing or land-clearing activities for installation and use of new monitoring devices shall begin until the Commission notifies the licensee that the plan is approved. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

Article 413. *Roanoke River Bypassed Reach Biological Monitoring Plan.* Within one year of the issuance date of this license, the licensee shall file for Commission approval, a plan to monitor the effectiveness of the bypassed reach minimum flows required by Article 407, for enhancing anadromous fish spawning success, and for determining species composition and relative abundance of resident fish and mollusks in the bypassed reach.

The licensee shall prepare the plan in consultation with members of the Cooperative Management Team (CMT), as set forth in Article 427, consisting of the North Carolina Wildlife Resources Commission, North Carolina Department of Environment and Natural Resources, the U.S. Fish and Wildlife Service, the National Marine Fisheries Service, and the Regional Partnership of Local Governments as an ex officio member.

The plan, at a minimum, shall include: (1) identification of anadromous fish spawning success criteria and specific test hypotheses to evaluate the effect of different spawning flows on spawning success; (2) a detailed description of the monitoring protocol and data standards for each variable used to evaluate

spawning success; (3) the means by which the final determination of appropriate spawning flows will be made, including, among others, optimizing anadromous fish spawning while recognizing the impact of lost generation; (4) a detailed description of the monitoring protocol and data standards for each variable used to assess the species composition and relative abundance of resident fish and mollusks; and (5) a schedule for implementing the plan and providing the monitoring results to the Commission; and the members of the CMT

The licensee shall conduct studies of anadromous fish annually. The licensee's funding obligations for monitoring anadromous fish shall be \$30,000 per year, plus one-third of costs exceeding \$30,000 if matched by other entities. The licensee shall monitor resident fish at 5-year intervals and mollusks at 7-10 year intervals. The licensee's funding obligations for monitoring resident fish shall be \$20,000 per survey, plus one-third of costs exceeding \$20,000 if matched by other entities. The licensee's funding obligations for monitoring mollusks shall be \$10,000 per survey, plus one-third of costs exceeding \$10,000 if matched by other entities. Reports describing results of anadromous fish, resident fish and mollusk monitoring shall be prepared at 1, 5 and 7-10 year intervals, respectively.

With respect to the plan required by this article, the licensee shall submit, to the Commission, documentation of its consultation carried out pursuant to Article 427. The Commission reserves the right to require changes to the plan. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

Short-term changes to any study or monitoring plan required by this article and undertaken in response to events that may alter flow releases or affect monitoring effectiveness may be made after consultation with the members of the CMT, as set forth in Article 427. Any such changes shall be reported to the Commission within 30 days of being determined necessary.

Following plan approval, any long-term changes to project operations or facilities identified by the monitoring results to mitigate environmental impacts, and not previously approved by the Commission in the plan, may not be implemented without prior Commission approval.

Article 414. Project Within-Day Peaking Operations. Within one year of the issuance date of this license, the licensee shall file with the Commission, for approval, a plan to monitor, evaluate, and, if determined to be necessary, reduce the contribution of the licensee's within-day peaking operations to bank erosion and potential effects on fish; and macroinvertebrates in the Roanoke River downstream from Roanoke Rapids dam. These operational changes shall not

require modification to the U.S. Army Corps of Engineer's (Corps) weekly declaration (as defined in Settlement Agreement Article GP2). Such reduction shall be implemented to contribute to recruitment and survival of flora and fauna in numbers and locations that are adequate to sustain or restore the biological integrity of the bank and instream ecosystems.

The plan shall include, at a minimum, the following features, consistent with Settlement Agreement Article FL3:

- (1) a description of the management objectives, all monitoring protocols, data standards, specific monitoring variables, testable hypotheses, success or decision criteria, monitoring cycles (consisting of five-year periods), procedures for selecting monitoring sites and notifying the Commission of the selections, any other appropriate monitoring protocols, and procedures for revisions to these protocols on the basis of the monitoring results;
- (2) a provision for the licensee to provide annual funding to commence no later than January 31, 2005, in the amount of \$30,000 for implementation of this plan, subject to carry-over of any funds not spent in a given year and provisions for consulting with the CMT, as set forth in Article 427, in the thirtieth year of the license to determine if increased levels of funding are needed;
- (3) a description of the procedures whereby the licensee, as set forth in Article 427, shall consult with the Cooperative Management Team (CMT), consisting of the North Carolina Wildlife Resources Commission, the North Carolina Department of Environment and Natural Resources, the U.S. Fish and Wildlife Service, the National Marine Fisheries Service, The Nature Conservancy, and the Regional Partnership of Local Governments in an *ex officio* capacity, to develop and, following the Commission's approval, implement the plan. Among other things, the plan shall provide for a determination, at the end of each monitoring cycle, of whether a causal link exists between within-day peaking operations and bank erosion or adverse effects on fish and macroinvertebrates;
- (4) a description of the procedures whereby the licensee, at the beginning of a monitoring cycle, shall respond to the determination required by paragraph (3) above, including (a) continuation and any revision to the monitoring for the next monitoring cycle and (b) a protocol for determining the need for any modification (or step change) to the licensee's discretion for within-day peaking operations if the determination required by paragraph (3) is affirmative. A step change shall reduce the licensee's discretion for within-day peaking operations by a proportional amount equivalent to 5 divided by the term of the license in years. The number of peaking days per year will not be reduced below the frequency of unregulated high flow days, on a monthly or seasonal basis, and the minimum

number of days available for within-day peaking shall not be reduced below 40 days per year;

(5) a definition of an unregulated high flow day and a procedure for determining the frequency of unregulated high flow days per (4) above and Settlement Agreement Article FL3, section 3.3;

(6) a description of the starting point and range of possible modifications of the licensee's discretion for "within-day" peaking operations, including items listed in Settlement Agreement Article FL3, Sections 2.1 and 3;

(7) a provision to file, with the Commission, every 5 years, commencing April 1, 2010, and continuing throughout the license term, a monitoring report that includes the results of the monitoring, evaluations of the effects of within-day peaking operations, and notice of intended within-day peaking operations for the next five years. Copies of the monitoring report shall also be sent to the members of the CMT; and

(8) an implementation schedule.

With respect to the plan required by this article, the licensee shall submit to the Commission documentation of its consultation, as set forth in Article 427. The Commission reserves the right to require changes to the plan. The plan shall not be implemented until the Commission notifies the licensee that the plan is approved. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

The monitoring cycles shall last for the duration of the license term, unless terminated earlier. The licensee shall submit any recommendation for such early termination, following consultation with the CMT, as set forth in Article 427, for the Commission's approval.

Short-term changes to any study or monitoring plan required by this article and undertaken in response to events that may alter flow releases or affect monitoring effectiveness may be made after consultation with the members of the CMT, as set forth in Article 427. Any such changes shall be reported to the Commission within 30 days of being determined necessary.

Following plan approval, any long-term changes to project operations or facilities identified by the monitoring results to mitigate environmental impacts, and not previously approved as part of the plan, may not be implemented without prior Commission approval.

Article 415. Project Within-Week Peaking Operations. Within one year of license issuance, the licensee shall file with the Commission, for approval, a plan to monitor, evaluate, and, if necessary, reduce the effects of within-week peaking operations on growing season floods, erosion, and suppression of vegetation and fauna in the riparian ecosystems downstream of the Roanoke Rapids Dam. Such reduction is intended to contribute to recruitment and survival of flora and fauna in numbers and locations that are adequate to sustain the riparian ecosystem. Changes to within-week peaking operations shall not constrain the licensee's within-day peaking operation nor require modification to the U.S. Army Corps of Engineer's (Corps) weekly declaration (as defined in Settlement Agreement Article GP2).

The plan shall include, at a minimum, the following features, consistent with Settlement Agreement Article FL4:

- (1) a provision to monitor riparian species, communities and erosion variables including but not limited to the following:
 - (a) seedlings of red maple (*Acer rubrum*), water hickory (*Carya aquatica*), green ash (*Fraxinus pennsylvanica*), sweet gum (*Liquidambar styraciflua*), tupelo gum (*Nyssa aquatica*), swamp black gum (*Nyssa biflora*), laurel oak (*Quercus laurifolia*), overcup oak (*Quercus lyrata*), swamp chestnut oak (*Quercus michauxii*), cherrybark oak (*Quercus pagoda*), bald cypress (*Taxodium distichum*), and American elm (*Ulmus amerciana*);
 - (b) large moths and butterflies, including forest tent caterpillar (macro-lepidoptera);
 - (c) terrestrial crawfish (*Cambarus spp.*);
 - (d) benthic macroinvertebrates in tributary streams;
 - (e) natural communities (to be monitored in the last growing season of every fourth monitoring cycle), including forested peatlands (Atlantic white cedar, bay forest, mixed bay-pine forest, swamp blackgum, bay-swamp blackgum, and mixed deciduous peatland), swamp forests (tupelo-cypress), and bottomland hardwoods (maple, oak, green ash, sweetgum, and tupelo); and
 - (f) bank vegetation (herbaceous and woody cover) and bank erosion (scouring and mass wasting).

(2) a description of the management objectives, all monitoring protocols, data standards, specific monitoring variables, testable hypotheses, success or decision criteria, monitoring cycles (consisting of five-year periods), procedures for selecting monitoring sites and notifying the Commission of the selections, any other appropriate monitoring protocols, and procedures for revisions to these protocols on the basis of the monitoring results;

(3) a provision for the licensee to provide funding in the amount of \$100,000 no later than January 31, 2005, plus up to \$25,000 if matched by other entities; and an amount of \$50,000 per year thereafter, plus up to \$25,000 if matched by other entities, subject to carry-over of any funds not spent in a given year;

(4) a description of the procedures whereby the licensee, as set forth in Article 427, shall consult with a Cooperative Management Team (CMT), consisting of the North Carolina Wildlife Resources Commission, the North Carolina Department of Environment and Natural Resources, the U.S. Fish and Wildlife Service, the National Marine Fisheries Service, The Nature Conservancy, and the Regional Partnership of Local Governments in an *ex officio* capacity, to develop, and following the Commission's approval, implement the plan. Among other things, the plan shall provide for a determination at the end of each monitoring cycle, of whether a causal link exists between within-week peaking operations and growing season floods and adverse effects on any of the monitored species;

(5) a description of the procedure whereby the licensee shall respond to the determination required by paragraph (4) above, including (a) continuation and any revision to the monitoring for the next monitoring cycle and (b) a protocol for determining the need for any modification (or step change) that modifies the licensee's net rescheduling of the Corp's weekly declaration (as defined in Settlement Agreement Article GP2) if the determination required by paragraph (4) is affirmative. Each such step change shall reduce or increase (depending upon the means chosen) the licensee's net rescheduling of the Corps' weekly declaration by half of any previous step change, as appropriate to achieve the stated purpose;

(6) a description of the starting point and range of possible modifications of the licensee's discretion for "within-week" peaking operations, including items listed in Settlement Agreement Article FL4, Sections 2.1 and 3;

(7) a provision to file with the Commission, every 5 years, commencing April 1, 2010, and continuing throughout the license term, a monitoring report that includes the results of the monitoring, assesses the effects of within-week peaking

operations on the riparian ecosystems of the Roanoke River downstream from the Roanoke Rapids Dam, and notice of intended within-week peaking operations for the next five years. Copies of the monitoring report shall also be sent to the members of the CMT; and

- (8) an implementation schedule.

With respect to the plan required by this article, the licensee shall submit to the Commission documentation of its consultation, as set forth in Article 427. The Commission reserves the right to require changes to the plan. The plan shall not be implemented until the Commission notifies the licensee that the plan is approved. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

The monitoring cycles shall last for the duration of the license term, unless terminated earlier. The licensee shall submit any recommendation for such early termination, following consultation with the members of the CMT, as set forth in Article 427, for Commission approval.

Short-term changes to any study or monitoring plan required by this article and undertaken in response to events that may alter flow releases or affect monitoring effectiveness may be made after consultation with the members of the CMT, as set forth in Article 427. Any such changes shall be reported to the Commission within 30 days of being determined necessary.

Following plan approval, any long-term changes to project operations or facilities identified by the monitoring results to mitigate environmental impacts, and not previously approved as part of the plan, may not be implemented without prior Commission approval.

Article 416. Fishery Enhancement Plan. Within one year of the issuance date of this license, the licensee shall file, for Commission approval, a plan to enhance the sport fisheries in Lake Gaston and Roanoke Rapids Lake. The plan shall describe the licensee's responsibilities towards enhancing the sport fisheries in Lake Gaston and Roanoke Rapids Lake through supplemental stocking and fisheries evaluations.

The fishery enhancement plan shall include, but not necessarily be limited to:

- (1) the licensee's funding obligations for enhancing the lake's fisheries through supplemental stocking and other management activities in

the amounts of \$50,000 per year to the North Carolina Wildlife Resources Commission (NC Wildlife Resources), and \$10,000 per year to the Virginia Department of Game and Inland Fisheries (VA Game and Inland Fisheries), beginning January 1, 2005;

- (2) a schedule for providing funds and notification to the Commission when the funds are provided to the NC Wildlife Resources and VA Game and Inland Fisheries;
- (3) a description of the licensee's obligations towards developing a plan to evaluate the lake's fish populations and fisheries on a 5-year cycle.

The licensee shall prepare the fishery enhancement plan in consultation with NC Wildlife Resources and VA Game and Inland Fisheries. The licensee shall include with the plan, documentation of agency consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. In reporting the result of the consultation with the Commission, the licensee shall document its compliance with the consultation process and provide either the agreement reached or documentation of any dispute, including the positions taken by the parties.

The Commission reserves the right to require changes to the plan. Implementation of any provision outlined in the plan shall not commence until the Commission notifies the licensee that the filing is approved. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

Article 417. *Reservation of Authority – Fishway.* Pursuant to Section 18 of the Federal Power Act, authority is reserved to the Commission to require the licensee to construct, operate, and maintain, or provide for the construction, operation, and maintenance, of such additional or modified fishways as may be prescribed by either the Secretary of the Interior or the Secretary of Commerce.

Article 418. *Bald Eagle Protection and Monitoring.* Pursuant to the measures identified by the U.S. Fish and Wildlife Service (USFWS) in a letter filed on March 16, 2004, the licensee shall conduct surveys to monitor bald eagle (*Haliaeetus leucocephalus*) activity and habitat in the project area. The specific

survey requirements and procedures, which shall be implemented within 30 days of license issuance, include the following provisions.

- (1) When the licensee is performing lake surveys, the staff shall watch for, and note on a map, observations of bald eagles from November 1 – July 31. This information shall be reported to the USFWS's Raleigh Field Office by August 31 of each year. The licensee shall also file a copy of the report with the Commission and the North Carolina Wildlife Resources Commission (NC Wildlife Resources) at the same time.
- (2) When the licensee is conducting on-site meetings with adjacent landowners to discuss proposed work on project property, the staff shall visually survey the surrounding area from the ground for any eagle nesting activity. If a potential eagle nest is located, the licensee shall (a) notify the USFWS's Raleigh Field Office prior to allowing any vegetation clearing or other work to occur on the licensee's property, and (b) recommend the landowner delay any clearing or other work on their property prior to consulting with the USFWS. Any activity conducted pursuant to this part shall be reported in accordance with the reporting requirements outlined in Item (1) of this article.
- (3) In conjunction with the review and update process for the shoreline management plan, as required by Article 421, the licensee shall conduct an aerial eagle survey of the total project area within 1,500 feet of the project impoundments and the Roanoke Rapids bypassed reach during the January 1 – May 31 bald eagle nesting season every 5 years. The results of this aerial survey shall be reported to the USFWS's Raleigh Field Office by August 31 of the year the survey was conducted. The licensee shall also file a copy of the report with the Commission and NC Wildlife Resources at the same time.

Any recommendations for additional measures to protect bald eagles and their habitat at the project, which result from the monitoring conducted under this article, shall be filed with the Commission, for approval, at the same time the annual and aerial survey report(s) are filed. Any such recommendations shall be developed in consultation with the USFWS and NC Wildlife Resources. The licensee shall include with its filing documentation of consultation with the agencies. The Commission reserves the right to require changes to the license if the need for additional bald eagle protective measures is identified.

Article 419. Waterfowl Management Area Plan. Within 3 years of the issuance date of this license, the licensee shall file, for Commission approval, a

plan to construct a water control structure(s) adjacent to Lake Gaston to provide waterfowl habitat. The plan shall be developed after consultation with the Virginia Department of Game and Inland Fisheries, the U.S. Fish and Wildlife Service, the U.S. Army Corps of Engineers, and Ducks Unlimited.

The waterfowl management area plan shall include, but not be limited to: (1) a description of the funding to be provided by other parties; (2) any feasibility study that forms the basis for the waterfowl management area; (3) a map that clearly identifies the location of the waterfowl management area in relation to Lake Gaston; (4) the estimated size (in acres) of the waterfowl management area; (5) design drawing(s) of the water control structure(s); (6) a description of the licensee's estimated cost to construct the water control structure(s); and (7) the entity responsible for the operation and maintenance of the waterfowl management area.

The licensee shall include, with the plan, documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies and Ducks Unlimited, and specific descriptions of how the agencies' and Ducks Unlimited's comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies and Ducks Unlimited to comment and make recommendations prior to filing the plan with the Commission. In reporting the results of the consultation with the Commission, the licensee shall document its compliance with the consultation process and provide either the agreement reached or documentation of any dispute, including the positions taken by the parties.

The licensee's obligation under this article shall be limited to \$100,000. The Commission reserves the right to require changes to the plan. No land-disturbing or land-clearing activities shall begin until the Commission notifies the licensee that the plan is approved. Upon Commission approval the licensee shall implement the plan, including any changes required by the Commission. Any structure(s) built in accordance with this plan shall be shown on the as-built drawings filed pursuant to Article 301 of this license.

Article 420. Shoreline Management Plan. Within 270 days of license issuance, the licensee shall file, for Commission approval, an updated shoreline management plan (SMP) for the Roanoke Rapids and Gaston Project. The shoreline management plans shall be based on the December 2000 "Shoreline Management Plan for the Roanoke Rapids and Gaston Hydroelectric Project." The licensee shall make the plan available to the public through its website.

The updated shoreline management plan shall be prepared in consultation with the North Carolina Wildlife Resources Commission (NC Wildlife Resources); the Virginia Department of Game and Inland Fisheries (VA Game and Inland Fisheries); the U.S. Fish and Wildlife Service (USFWS); Lake Gaston Association; the City of Roanoke Rapids, North Carolina; and the Regional Partnership of Local Governments (Local Governments).

The licensee shall include, with the SMP, documentation of consultation, copies of comments and recommendations on the completed SMP after it has been prepared and provided to the agencies and other entities, and specific descriptions of how the agencies' and other entities' comments are accommodated by the SMP. The licensee shall allow a minimum of 30 days for the agencies and other entities to comment and to make recommendations before filing the plan with the Commission. In reporting the results of the consultation with the Commission, the licensee shall document its compliance with the consultation process and provide either the agreement reached or documentation of any dispute, including the positions taken by the parties.

The Commission reserves the right to require changes to the SMP. Upon Commission approval, the licensee shall implement the SMP, including any changes required by the Commission.

The licensee may modify the construction procedures and permitting requirements upon mutual agreement with NC Wildlife Resources, VA Game and Inland Fisheries, USFWS, the Lake Gaston Association, the City of Roanoke Rapids, and Local Governments. In accordance with the reporting requirements of Article 426, licensee shall file a list of modifications to the construction procedures and permitting requirements with the Commission no later than January 31 of each year.

Article 421. *Shoreline Management Plan Review and Update Procedures.* The licensee shall participate in the collaborative review process and update the Shoreline Management Plan (SMP), filed pursuant to Article 420 of this license, as set forth in this article.

The licensee shall review the SMP every 5 years, in consultation with the North Carolina Wildlife Resources Commission (NC Wildlife Resources), the Virginia Department of Game and Inland Fisheries (VA Game and Inland Fisheries), the U.S. Fish and Wildlife Service (USFWS), the Lake Gaston Association, the City of Roanoke Rapids, North Carolina, and the Regional Partnership of Local Governments (Local Governments). The first review cycle

will commence 5 years after the SMP filed pursuant to Article 420 is approved by the Commission.

The licensee shall host at least one formal meeting that is open to the public, with at least a 30-day advanced notice, during the 5-year review. This review shall be in consultation with representatives from each of the entities listed above.

Within 60 days of completing the review and receiving comments on the SMP, the licensee shall file a report, with the Commission, that includes any recommendations for changes to the previously approved SMP. The licensee shall include with the report, documentation of consultation, copies of comments and recommendations received during the review of the SMP, and specific descriptions of how the entities' comments are accommodated by any proposal to revise the SMP. In reporting the results of the consultation with the Commission, the licensee shall document its compliance with the consultation process and provide either the agreement reached or documentation of any dispute, including the positions taken by the parties.

The Commission reserves the right to require changes to the SMP. Upon Commission approval, the licensee shall implement the SMP, including any changes required by the Commission. The licensee shall post on its website the revised SMP within 90 days of receiving approval from the Commission.

The licensee may modify the Construction and Use procedures and permitting requirements upon mutual agreement with NC Wildlife Resources, VA Game and Inland Fisheries, USFWS, the Lake Gaston Association, the City of Roanoke Rapids, and Local Governments. In accordance with the reporting requirements of Article 426, licensee shall file a list of modifications to the Construction and Use Procedures and permitting requirements with the Commission no later than January 31 of each year.

Article 422. Recreation Monitoring. The licensee shall monitor recreation use at the Roanoke Rapids and Gaston Project to determine whether existing recreation facilities are meeting recreation needs.

- (1) Lake Gaston and Roanoke Rapids Lake Fishery. To monitor recreation use, the licensee shall develop a recreational user survey, after consultation with the North Carolina Wildlife Resources Commission (NC Wildlife Resources), and the Virginia Department of Game and Inland Fisheries (VA Game and Inland Fisheries), and in conjunction with the Roanoke Rapids and Lake Gaston Fishery Enhancement Plan

required by Article 416 of this license. If NC Wildlife Resources performs the survey, the licensee shall fund NC Wildlife Resources \$40,000 per survey. If the survey performed by NC Wildlife Resources exceeds \$40,000, the licensee shall fund up to an additional 20 percent once documentation is provided of the additional costs.

The licensee shall conduct, or provide for an entity to conduct, the recreational user survey once every 6 years at Lake Gaston or Roanoke Rapids Lake, concurrent with the filing of FERC Form-80 required by Section 8 of the Commission's regulations (18 CFR 8.11). The recreational user survey shall alternate between Lake Gaston and Roanoke Rapids Lake. Upon mutual agreement among NC Wildlife Resources, VA Game and Inland Fisheries, and the licensee, two consecutive surveys may occur on either Lake Gaston or Roanoke Rapids Lake, if deemed necessary.

During the term of the license, concurrent with the filing of FERC Form-80, the licensee shall file a report with the Commission on the recreation use survey results. The report shall include, at a minimum, information on fish catch rates, fish harvest estimates, economic estimates, lake carrying capacity and user satisfaction with the recreational value of the lakes. The licensee shall consult with the NC Wildlife Resources and VA Game and Inland Fisheries to determine if changes are needed in the Lake Fishery Enhancement Plan and delineate said changes in the plan consistent with Article 416 of this license.

- (2) Concurrent with filing the FERC Form 80, the licensee shall report to the Commission a separate evaluation to determine if the Roanoke Rapids and Gaston Day Use Areas are meeting the goals of the recreational provisions. The report shall include, at a minimum: (a) recreation use figures; (b) a discussion of the adequacy of the licensee's recreation facilities at the project site to meet recreation needs; (c) a description of the methodology used to collect all study data; (d) any recreation measures proposed by the licensee to accommodate recreation needs in the project area; and (e) a discussion of the adequacy of, and need for, additional measures to enhance the Lake Gaston and the Roanoke Rapids Day Use Areas.

For each of the reports required in provisions (1) and (2) above, the licensee shall include, with the report, documentation of agency consultation, copies of comments and recommendations on the completed report after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the report. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations prior to filing the report with the Commission. In reporting the results of the

consultation with the Commission, the licensee shall document its compliance with the consultation process and provide either the agreement reached or documentation of any dispute, including the positions taken by the parties.

The Commission reserves the right to require changes to the license if the report required by provision (2) identifies the need for changes to the recreational facilities at the project. If the recreation-use surveys identify the need for additional facilities, such facilities shall not be implemented without prior Commission approval, after the filing of an application to amend the recreation plan filed pursuant to Article 423 of this license.

Article 423. Recreation Plan. Within one year of the issuance date of this license, the licensee shall file, for Commission approval, a final recreation plan to enhance recreation resources at the Roanoke Rapids and Gaston Project, consistent with Settlement Agreement Article RC1. The licensee shall develop the plan after consultation with the North Carolina Wildlife Resources Commission (NC Wildlife Resources); the Virginia Department of Game and Inland Fisheries; the Virginia Department of Conservation and Recreation; the City of Roanoke Rapids, North Carolina; the Lake Gaston Association; and the Regional Partnership of Local Governments. In addition, the licensee shall develop the final plan in conjunction with the Historic Properties Management Plan required as part of the Programmatic Agreement under Article 425 of this license, so that recreational enhancements do not conflict with the Historic Properties in the project area.

The final recreation plan shall include, but not be limited to, the measures identified below.

- (1) Lake Gaston Day Use Area: (a) improvement to the existing fishing pier; (b) picnic tables; (c) trash cans; (d) two horseshoe pits; (e) a picnic pavilion with changing rooms; (f) a four-foot-wide paved path along the beach to the pier, accessible to individuals with disabilities; (g) leased portable toilet(s); and (h) an information kiosk.
- (2) Roanoke Rapids Day Use Area: (a) an extension of the existing Roanoke Canal Trail; (b) a nature trail and fitness loops; (c) a gravel surface parking area for 100 vehicles; (d) renovation and expansion of the beach area; (e) trash cans; (f) two horseshoe pits; (g) picnic tables; (h) three single sheltered tables; (i) a covered picnic pavilion that accommodates up to 40 people; (j) a covered picnic pavilion that accommodates up to 100 people and includes a restroom area; (k) a fishing pier accessible to individuals with disabilities; and (l) an information kiosk.

- (3) Roanoke Rapids Tailrace Fishing Area: (a) public access to the Roanoke Rapids bypassed reach, including improvements to the existing tailrace fishing area; and (b) public safety signs.
- (4) Bank Fishing and Water to Land Sites: (a) a tailrace fishing area at the Lake Gaston Dam with an improved road to the area; (b) a bank fishing area at the north end of Lake Gaston Dam; (c) a bank fishing area at the NC Wildlife Resources boat landing at Stonehouse Creek; and (d) a bank fishing area where Route 615 crosses Miles Creek; and (e) a water to land recreation area near Nocarva peninsula.
- (5) Lake Boating Enhancements: (a) install and maintain mile marker buoys on Lake Gaston; and (b) at the six North Carolina boat landing sites on Roanoke Rapids Lake and Lake Gaston, (i) install lights, (ii) a description of the licensee's annual contribution to NC Wildlife Resources per boat landing for the operation and maintenance of the six boat landing sites, and (iii) install appropriate signs at the boat landing sites.

The recreation plan shall include the licensee's funding obligations for developing and enhancing each of the recreation enhancements listed above. The licensee's obligation for funding for each of the recreation enhancements is limited as follows:

(1)	Lake Gaston Day Use Area:	\$84,000
(2)	Roanoke Rapids Day Use Area:	\$420,000
(3)	Roanoke Rapids Tailrace Fishing Area;	\$150,000
(4)	Bank Fishing Sites (three phase installation):	\$168,000
(5)	Lake Boating Enhancements:	
	(a) Light Installation	\$6,300
	(b) Annual NC Wildlife Resources maintenance funding	\$30,000
	(c) Hawtree Creek Boat Landing	\$105,000
(6)	Annual operation and maintenance of (1) and (2) above.	\$70,000

The final recreation plan shall also include: (1) a map(s) that clearly identifies all existing and proposed recreation sites and public access, in relation to the existing Roanoke Rapids and Gaston Hydroelectric Project boundary; (2) a provision for identifying any future need for camping platform(s) or other such recreational facilities along the Lower Roanoke River; (3) the length and width of any project-related recreation trails, paths, etc.; (4) a description of soil erosion

and sediment control measures to be used during construction of the recreation facilities and public access; (5) a discussion of how the needs of the disabled were considered in the planning and design of the recreation facilities and public access; (6) a description of appropriate sign(s) to be placed at the recreation sites; (7) the entity or entities responsible for constructing, operating, and maintaining the facilities; (8) a description of the licensee's contribution to the Lake Gaston Virginia Day Use Area (licensee's obligation not to exceed \$472,500) and the Hawtree Creek Boat Landing; (9) a description of the community outreach program for the project and the licensee's monetary contribution to the program (licensee's obligation not to exceed \$1,000 annually); and (10) an implementation schedule.

The licensee shall include with the final recreation plan documentation of agency consultation, copies of comments and recommendations on the plan after it has been prepared and provided to the agencies and other entities, and specific descriptions of how the agencies' and other entities' comments and recommendations are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies and other entities to comment prior to filing the plan with the Commission. In reporting the results of the consultation with the Commission, the licensee shall document its compliance with the consultation process and provide either the agreement reached or documentation of any dispute, including the positions taken by the parties.

The Commission reserves the right to require changes to the plan. Upon Commission approval, the licensee shall implement the plan. Any structure or facility built or installed in accordance with this plan shall be shown on the as-built drawings filed pursuant to Article 301 of this license.

Article 424. Whitewater Boating Plan. Within 90 days of the issuance date of this license, the licensee shall file, for Commission approval, a plan to release flows into the lower Roanoke River between NC Highway 48 and the boat ramp at Weldon for whitewater boating. The licensee, as set forth in Article 427, shall develop the plan in consultation with the U.S. Army Corps of Engineers (Corps) and the members of the Cooperative Management Team (CMT), including the North Carolina Department of Environment and Natural Resources (NC Environment and Natural Resources); the City of Roanoke Rapids and Halifax County, North Carolina; and the Carolina Canoe Club.

The licensee shall coordinate the development of the whitewater boating plan with the provisions of Articles 404, 405, 409, 414, and 415 of this license. The plan shall include, but not be limited to, the provisions listed below.

(1) Paddler flows: During the planned releases described below, the flow from the Roanoke Rapids dam shall be between 2,000 cfs and 3,300 cfs as measured at the Roanoke Rapids gage. The plan shall include paddler flow targets, consistent with Settlement Agreement Article RC2, section 1.2.1.

(2) Advanced Planned Releases. The licensee shall provide recreational flow releases for two weekends in July, one weekend in August, and Labor Day weekend, for a total of four weekends. One of the July weekends shall be the weekend closest to July 4. The licensee shall post on its website by April 1 of each year the four weekend dates for the year, and the scheduled single days for each of the weekends. If the Corps' weekly declaration (as defined in Settlement Agreement Article GP2) for the week coinciding with a designated weekend is greater than or equal to 6,000 cubic feet per second (cfs) and the project is not in flood control mode, the licensee shall provide releases for one weekend day only. Otherwise, the licensee shall provide releases for both weekend days. The single days shall be two Saturdays and two Sundays. The licensee shall post on its website, by 10:00 a.m. on the Friday preceding the recreational flow release, the planned recreational flow and the times the scheduled flow shall be provided.

(3) Short-term Planned Releases. The licensee shall provide short-term planned releases between June 16 and October 31. If the Corps' weekly declaration (as defined in Settlement Agreement Article GP2) is less than or equal to 4,000 cfs, the licensee shall provide recreational flows for both weekend days. If the Corps' weekly declaration is less than 6,000 cfs and greater than 4,000 cfs, the licensee shall provide recreational flows for one weekend day. Otherwise, the licensee shall have no obligation to provide recreational flows during the weekend. The licensee shall post on its website, by the Friday preceding the recreational flow release, the planned recreational flow and the times the scheduled flow shall be provided.

(4) Weekly Commencement of Planned Releases. Paddler flows shall begin on Fridays and Saturdays per the provisions of (2) above by 8:00 PM on Fridays when the Corps' weekly declaration (as defined in Settlement Agreement Article GP2) is less than 6,000 cfs; or when the weekly declaration is equal to or greater than 6,000 cfs, by 6:00 PM on Fridays prior to a single day Saturday recreational release, and by 4:00 PM on Saturdays prior to a single day Sunday recreational release. Paddler flows consistent with the provisions of (3) above shall begin by 4:00 pm on Saturdays when the weekly declaration is greater than 4,000 cfs, but less than 6,000 cfs, or by 8:00 pm on Fridays when the weekly declaration is less than or equal to 4,000 cfs.

(5) Information. The licensee shall maintain public information on its web page that includes, but is not limited to: (a) a link to the U.S. Geological

Survey (USGS) Roanoke Rapids flow and gage data; (b) either a link to the USGS Halifax gage or a web camera view of the Weldon Rapids; (c) the dates of the advanced planned releases; (d) a daily update of predicted load following conditions for the next two days posted by 10:00 am each day; (e) the Corps' weekly flow declaration (as defined in Settlement Agreement Article GP2); and (f) an annual report, as discussed below.

The licensee shall develop, by February 15 of each year, an annual report of the weekend recreational flows for nine recreational releases. The nine reported weekends shall include one in June, and two in each of July, August, September, and October, and shall include the four advanced planned releases described in item (1) above. The report shall include, but not be limited to, the following: (1) the dates of the nine weekend recreational releases and an indication of which dates are advanced planned and short-term planned releases; (2) the Corps' weekly declarations (as defined in Settlement Agreement Article GP2) affecting each reported release, and the time peaking ceased on the day preceding each weekend recreational release day; and (3) the USGS Halifax gage readings for 9:00 a.m., 12:00 p.m., and 3:00 p.m. on the first day of each of the nine reported releases. The licensee shall provide the annual report to the Commission and the members of the CMT no later than February 15 of the year following each season of recreational releases.

The licensee shall convene a meeting of the members of the CMT within one year of the issuance of this license to establish performance indicators to determine if the objectives of this article are being met.

By February 15 of the year following the fifth year of releasing flows for whitewater boating, the licensee shall convene a meeting with the members of the CMT to assess the flows and identify any potential changes or adjustments to the recreational flows, consistent with Settlement Agreement Article RC2. The outcome of these meetings shall be filed with the Commission no later than 30 days after the meeting.

If changes to the river regulation rules at Kerr Reservoir or adaptive changes made through Articles 414 or 415 occur, the licensee shall convene a joint meeting of the CMT formed pursuant to this article and the CMTs established under Articles 414 and 415 to address effects of such changes on recreational releases and seek to modify operations such that the project operations meet the objectives of Articles 414 and 415 and, to the extent possible, provide the enhancements intended by this Article. If the Corps amends the guide curve or rule of operation for Kerr Reservoir, the licensee shall convene a meeting of the consulting parties within six months of implementing such an amendment and, if the licensee along with the members of the CMT determine that changes to

recreational releases are required in response to such amendment, the licensee shall implement such changes within one year of implementing the amendment. If changes are made to the recreational flows in response to changes in Kerr Reservoir operation, the licensee shall notify the Commission as soon as possible, but no later than 10 days after making such changes.

With respect to the plan required by this article, the licensee shall submit to the Commission documentation of its consultation, as set forth in Article 427. The Commission reserves the right to require changes to the whitewater boating plan. Implementation of any provision outlined in the plan shall not commence until the Commission notifies the licensee that the plan is approved. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission. The Commission also reserves the right to require changes to the whitewater boating plan if the whitewater flow reports identify the need for changes to the recreational flow releases downstream from the project. Any changes to the recreational flow releases identified by the licensee, and not previously approved as part of the white water boating plan, shall not be implemented until approved by Commission.

The recreational flow releases may be temporarily modified if required by operating emergencies beyond the control of the licensee (e.g., electrical demand emergencies, flood control operations, droughts), or for short periods of time upon mutual agreement among the licensee, NC Environment and Natural Resources, and the Corps. If the flows are so modified, the licensee shall notify the Commission as soon as possible, but no later than 10 days after such incident. If an advanced planned release is cancelled due to emergencies or flood control, the licensee shall make a good faith effort to reschedule another advanced planned release during the recreational season.

Article 425. Programmatic Agreement. The licensee shall implement the “Programmatic Agreement Among the Federal Energy Regulatory Commission, the Commonwealth of Virginia, State Historic Preservation Officer, and the State of North Carolina, State Historic Preservation Officer, for Managing Historic Properties That May Be Affected By Issuing to Virginia Electric & Power Company, Operating as Dominion Generation, for the Continued Operation of the Roanoke Rapids and Gaston Hydropower Project in Brunswick and Mecklenburg Counties, Virginia, and Halifax, Northampton, and Warren Counties, North Carolina,” executed on July 30, 2003. In fulfilling the terms of the Programmatic Agreement, the Licensee shall consult with the Tuscarora Indian Nation. The Tuscarora Indian Nation will be included in the Programmatic Agreement at stipulations I.A.; I.B.2.; the lead sentences of II, III, and IV; III.A.; and V.A., and afforded the opportunity to participate in accordance with those stipulations.

In the event that the Programmatic Agreement is terminated, the licensee shall continue to implement the provisions of its approved Historic Properties Management Plan. The Commission reserves the right to require changes to the Historic Properties Management Plan at any time during the term of the license. If the Programmatic Agreement is terminated, the licensee shall obtain approvals from, or make notifications to, the Commission or State Historic Preservation Officer, where the Historic Properties Management Plan calls upon the licensee to do so.

Article 426. Use and Occupancy. (a) In accordance with the provisions of this article, the licensee shall have the authority to grant permission for certain types of use and occupancy of project lands and waters and to convey certain interests in project lands and waters for certain types of use and occupancy, without prior Commission approval. The licensee may exercise the authority only if the proposed use and occupancy is consistent with the purposes of protecting and enhancing the scenic, recreational, and other environmental values of the project. For those purposes, the licensee shall also have continuing responsibility to supervise and control the use and occupancies for which it grants permission, and to monitor the use of, and ensure compliance with the covenants of the instrument of conveyance for, any interests that it has conveyed, under this article.

If a permitted use and occupancy violates any condition of this article or any other condition imposed by the licensee for protection and enhancement of the project's scenic, recreational, or other environmental values, or if a covenant of a conveyance made under the authority of this article is violated, the licensee shall take any lawful action necessary to correct the violation. For a permitted use or occupancy, that action includes, if necessary, canceling the permission to use and occupy the project lands and waters and requiring the removal of any non-complying structures and facilities.

(b) The type of use and occupancy of project lands and water for which the licensee may grant permission without prior Commission approval are: (1) landscape plantings; (2) non-commercial piers, landings, boat docks, or similar structures and facilities that can accommodate no more than 10 watercraft at a time and where said facility is intended to serve single-family type dwellings; (3) embankments, bulkheads, retaining walls, or similar structures for erosion control to protect the existing shoreline; and (4) food plots and other wildlife enhancements.

To the extent feasible and desirable to protect and enhance the project's scenic, recreational, and other environmental values, the licensee shall require

multiple use and occupancy of facilities for access to project lands or waters. The licensee shall also ensure, to the satisfaction of the Commission's authorized representative, that the use and occupancies for which it grants permission are maintained in good repair and comply with applicable state and local health and safety requirements. Before granting permission for construction of bulkheads or retaining walls, the licensee shall: (1) inspect the site of the proposed construction; (2) consider whether the planting of vegetation or the use of riprap would be adequate to control erosion at the site; and (3) determine that the proposed construction is needed and would not change the basic contour of the reservoir shoreline. To implement this paragraph (b), the licensee may, among other things, establish a program for issuing permits for the specified types of use and occupancy of project lands and waters, which may be subject to the payment of a reasonable fee to cover the licensee's costs of administering the permit program. The Commission reserves the right to require the licensee to file a description of its standards, guidelines, and procedures for implementing this paragraph (b) and to require modification of those standards, guidelines, or procedures.

(c) The licensee may convey easements or rights-of-way across, or leases of, project lands for: (1) replacement, expansion, realignment, or maintenance of bridges or roads where all necessary state and federal approvals have been obtained; (2) storm drains and water mains; (3) sewers that do not discharge into project waters; (4) minor access roads; (5) telephone, gas, and electric utility distribution lines; (6) non-project overhead electric transmission lines that do not require erection of support structures within the project boundary; (7) submarine, overhead, or underground major telephone distribution cables or major electric distribution lines (69-kV or less); and (8) water intake or pumping facilities that do not extract more than one million gallons per day from a project reservoir. No later than January 31 of each year, the licensee shall file three copies of a report briefly describing for each conveyance made under this paragraph (c) during the prior calendar year, the type of interest conveyed, the location of the lands subject to the conveyance, and the nature of the use for which the interest was conveyed.

(d) The licensee may convey fee title to, easements or rights-of-way across, or leases of project lands for: (1) construction of new bridges or roads for which all necessary state and federal approvals have been obtained; (2) sewer or effluent lines that discharge into project waters, for which all necessary federal and state water quality certification or permits have been obtained; (3) other pipelines that cross project lands or waters but do not discharge into project waters; (4) non-project overhead electric transmission lines that require erection of support structures within the project boundary, for which all necessary federal and state approvals have been obtained; (5) private or public marinas that can accommodate no more than 10 watercraft at a time and are located at least one-half mile

(measured over project waters) from any other private or public marina; (6) recreational development consistent with an approved exhibit R or approved report on recreational resources of an exhibit E; and (7) other uses, if: (i) the amount of land conveyed for a particular use is five acres or less; (ii) all of the land conveyed is located at least 75 feet, measured horizontally, from project waters at normal surface elevation; and (iii) no more than 50 total acres of project lands for each project development are conveyed under this clause (d)(7) in any calendar year.

At least 60 days before conveying any interest in project lands under this paragraph (d), the licensee must submit a letter to the Director, Office of Energy Projects, stating its intent to convey the interest and briefly describing the type of interest and location of the lands to be conveyed (a marked exhibit G or K map may be used), the nature of the proposed use, the identity of any federal or state agency official consulted, and any federal or state approvals required for the proposed use. Unless the Director, within 45 days from the filing date, requires the licensee to file an application for prior approval, the licensee may convey the intended interest at the end of that period.

(e) The following additional conditions apply to any intended conveyance under paragraph (c) or (d) of this article:

(1) Before conveying the interest, the licensee shall consult with federal and state fish and wildlife or recreation agencies, as appropriate, and the State Historic Preservation Officer.

(2) Before conveying the interest, the licensee shall determine that the proposed use of the lands to be conveyed is not inconsistent with any approved exhibit R or approved report on recreational resources of an exhibit E; or, if the project does not have an approved exhibit R or approved report on recreational resources, that the lands to be conveyed do not have recreational value.

(3) The instrument of conveyance must include the following covenants running with the land: (i) the use of the lands conveyed shall not endanger health, create a nuisance, or otherwise be incompatible with overall project recreational use; (ii) the grantee shall take all reasonable precautions to ensure that the construction, operation, and maintenance of structures or facilities on the conveyed lands will occur in a manner that will protect the scenic, recreational, and environmental values of the project; and (iii) the grantee shall not unduly restrict public access to project waters.

(4) The Commission reserves the right to require the licensee to take reasonable remedial action to correct any violation of the terms and conditions of

this article, for the protection and enhancement of the project's scenic, recreational, and other environmental values.

(f) The conveyance of an interest in project lands under this article does not in itself change the project boundaries. The project boundaries may be changed to exclude land conveyed under this article only upon approval of revised exhibit G or K drawings (project boundary maps) reflecting exclusion of that land. Lands conveyed under this article shall be excluded from the project only upon a determination that the lands are not necessary for project purposes, such as operation and maintenance, flowage, recreation, public access, protection of environmental resources, and shoreline control, including shoreline aesthetic values. Absent extraordinary circumstances, proposals to exclude lands conveyed under this article from the project shall be consolidated for consideration when revised exhibit G or K drawings would be filed for approval for other purposes.

(g) The authority granted to the licensee under this article shall not apply to any part of public lands and reservations of the United States included within the project boundary.

Article 427. Cooperative Management and Dispute Resolution. Except as expressly provided otherwise in this license, the licensee shall engage in cooperative management and dispute resolution as provided in the Settlement Agreement, General Procedures, Section 12 and relevant portions of Section 6. Wherever in the license articles reference is made to either the licensee consulting with a CMT pursuant to this article or the licensee consulting or reaching agreement with other named parties, this means that the licensee shall comply with these specified sections as applicable according to the Settlement Agreement. In reporting the results of that "consultation" with the Commission, the licensee shall document its compliance with this process and provide either the agreement reached thereby or documentation of the dispute resolution including the positions taken by the parties. Measures required as a result of consultation or dispute resolution, to the extent not previously approved by the Commission, may not be implemented without prior Commission approval.

Article 428. Expenditures. Notwithstanding the limitation on expenditures included in this license, the Commission reserves the right to require the licensee to undertake such measures as may be appropriate and reasonable to implement approved plans. Where reference is made to specific amounts in the above license articles, sums are in 2002 dollars and shall be adjusted for inflation consistent with the Settlement Agreement, page GP-16, section 13.7.